

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 22

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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**Ex parte** CHANDRAKANT BHAILALBHAI PATEL and ALLEN LEROY LIMBERG

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Appeal No. 2002-1667  
Application 09/078,555

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HEARD: May 6, 2003

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PAT. & T.M. OFFICE  
BOARD OF PATENT APPEALS  
AND INTERFERENCES

Before BARRETT, FLEMING, and DIXON, **Administrative Patent Judges.**

FLEMING, **Administrative Patent Judge.**

**DECISION ON APPEAL**

This is a decision on appeal from the final rejection of claims 23 through 40, all the claims pending in the instant application. Claims 1 through 22 have been canceled.

**Invention**

The invention relates to radio receivers having the capability of receiving digital high-definition television (HDTV) signals, no matter whether they are transmitted using quadrature amplitude modulation (QAM) of the principal carrier wave or they

are transmitted using vestigial sideband (VSB) amplitude modulation of the principal carrier wave. See page 1 of Appellants' specification. VSB signals that are used in certain transmissions of HDTV signal have their natural carrier wave, replaced by a pilot carrier wave of fixed amplitude. VSB signals will be used in over-the-air broadcasting within the United States. However, certain cable-casting is likely to be done using QAM signals instead of VSB signals. This presents television receiver designers with the challenge of designing receivers that are capable of receiving either type of transmission. See page 1 of Appellants' specification.

Figure 2 is a block schematic diagram of a portion of the digital HDTV signal radio receiver of a type embodying the invention. See page 7 of the Appellants' specification. Amplitude-and-group-delay equalizer 36 is arranged to provide to a flat amplitude-versus-frequency characteristic in response to the VSB pilot carrier present detector 34 indicating the absence of pilot carrier. Detector 34 detects whether there is a presence of a pilot carrier signal that indicates a VSB signal. Detector 34, based upon this detection, sends a signal to multiplexer 33 which selectively responds to select the proper

mode based upon whether the signal being received is a VSB signal or a QAM signal. See page 13 of Appellants' specification.

Independent claim 23 present in the application is reproduced as follows:

23. A method of controlling the operating mode of an equalizer comprising steps of:

identifying a direct current (DC) component of a received signal:  
and

controlling the operating mode of the equalizer in response to the identification of the direct current (DC) component of said received signal.

#### ***References***

The Examiner has not relied on any references.

#### ***Rejection at Issue***

Claims 23 through 40 stand rejected under 35 U.S.C. § 112, first paragraph, for containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventors, at the time the application was filed, had possession of the claimed invention.<sup>1</sup>

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<sup>1</sup>We note that in the final rejection, claims 23 and 26 through 40 stand rejected under 35 U.S.C. § 102 as being anticipated by Nielsen, U.S. patent no. 5,684,827. See page 3 of the final rejection. In the Examiner's answer, the Examiner did not include this rejection under the section "Grounds of

In our opinion, we make reference to the briefs<sup>2</sup> and the answer for the respective details thereof.

**OPINION**

With full consideration being given to the subject matter on appeal, the Examiner's rejection and the arguments of Appellants and Examiner for the reasons stated *infra*, we reverse the Examiner's rejection of claims 23 through 40 under 35 U.S.C. § 112, first paragraph.

The Examiner states that the ground for this rejection is set forth in the final rejection. See page 3 of the Examiner's answer. In the final rejection, the Examiner states that the method of controlling the operation mode of the equalizer in response to the identification of DC component of the received

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Rejection." Furthermore, the Examiner did not respond to the arguments made by the Appellants in the brief as to the rejection of these claims under 35 U.S.C. § 102 in the section "Response to Argument." Furthermore, the Appellants responded in the reply brief by stating that since the Examiner did not include the rejection under the section "Grounds of Rejection" that the Appellants assume that the rejection of claims 23 and 26 through 40 under 35 U.S.C. § 102 has been withdrawn. See page 2 of the reply brief. In view of the record, we find that the Examiner has withdrawn this rejection and it is not properly before us for our consideration.

<sup>2</sup> Appellants filed an appeal brief on November 27, 2001. Appellants filed a reply brief on April 8, 2002. The Examiner mailed an Office Communication on April 17, 2002, stating that the reply brief has been entered into the record.

signal is subject matter that was not described in the specification in such a way as to reasonably convey to one of skilled in the art at the time that the application was filed had possession of the claimed invention. See page 3 of the final rejection. Appellants argue that on page 1, lines 6 through 11 of Appellants' specification, that the pilot carrier wave is described as a wave of fixed amplitude. Appellants further point to Appellants' specification at page 16, lines 4 through 19, which states that the pilot carrier signal is a zero-frequency. Appellants argue that one of ordinary skill in the art would recognize from these portions of the specification that the pilot carrier wave is DC.

The first paragraph of 35 U.S.C. § 112 requires that "the specification shall contain the written description of the invention[.]" 35 U.S.C. § 112, ¶ 1 (1994). This requires the Appellant to "convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention. The invention is, for purposes of the 'written description' inquiry, whatever is now claimed."

***Vas-Cath, Inc. v. Mahurkar***, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991). Thus, the inquiry is "'not a question of whether one skilled in the art might be able to

construct the patentee's device from the teachings of the disclosure. . . . Rather, it is a question whether the application necessarily discloses that particular device.'"

**Lockwood v. America Airlines, Inc.**, 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966 (Fed. Cir. 1997), citing **Martin v. Mayer**, 823 F.2d 500, 504, 3 USPQ2d 1333, 1337 (Fed. Cir. 1987) (quoting **Jepson v. Coleman**, 314 F.2d 533, 536, 136 USPQ 647, 649-50 (CCPA 1963)).

An Applicant complies with the written description requirement "by describing the invention, with all its claimed limitations[.]" **Id.** "One does that by such descriptive means as words, structures, figures, diagrams, formulas, etc., tat fully set forth the claimed invention." **Id.** "[T]he written description must include all of the limitations . . . or the applicant must show that any absent text is necessarily comprehended in the description provided and would have been so understood at the time the patent application was filed." **Hyatt v. Boone**, 146 F.3d 1348, 1354-55, 47 USPQ2d 1128, 1132 (Fed. Cir. 1998).

We agree with the Appellants that, indeed, those portions of the specification pointed to by the Appellants would reasonably

convey to those skilled in the art that the pilot carrier wave contains a direct (DC) component which is identified to determine whether the signal received is QAM or VSB. Furthermore, we point to other portions of the specification which also support the Appellants' argument. In particular, page 17 also states that the amplitude-and-group-delay equalizer 36 is arranged to provide a flat amplitude-versus-frequency characteristic in response to the VSB pilot carrier presence detector 34 indicating the absence of pilot carrier. In other words, when element 34 does not detect a DC component, the equalizer 36 is configured to provide a characteristic response. Furthermore, Appellants' original specification as filed states that the detector 34 detects zero-frequency terms of the real samples from the VSB synchrodyne circuitry 29. When the zero-frequency term has essentially zero energy, indicating the absence of pilot carrier signal that accompanies a VSB signal, the multiplexer 33 selectively responds for a QAM signal. When the zero-frequency term has substantial energy, indicating the presence of pilot carrier signal that accompanies a VSB signal, the multiplexer 33 selectively responds for a VSB signal. Thus, detector 34 is identifying a DC component. Therefore, we find that the subject matter claimed in claims 23 through 40 is properly described in the specification

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in such a way as to reasonably convey to one skilled in the art,  
at the time the application was filed, had possession of the  
claimed invention.

In view of the foregoing, we have not sustained the  
Examiner's rejection of claims 23 through 40 under 35 U.S.C.  
§ 112, first paragraph.

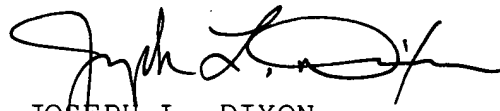
**REVERSED**



LEE E. BARRETT  
Administrative Patent Judge



MICHAEL R. FLEMING  
Administrative Patent Judge



JOSEPH L. DIXON  
Administrative Patent Judge

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